

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

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MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

PHARMACEUTICAL ANALYSIS AND CHEMISTRY (MCQS)

1. Basicity of organic acids can be determined by

- A. Conductometry
- B. Refractometry
- C. Non-aqueous titrations
- D. Complexometry

Ans. A

2. For the detection of amino acids in Thin Layer Chromatography, the best reagent is

- A. Ninhydrin
- B. Copper sulphate
- C. Iodine
- D. potassium permanganate

Ans. A

3. Which of the following cannot be used as carrier gas in gas chromatography

- A. Hydrogen
- B. Nitrogen
- C. Helium
- D. Oxygen

Ans. D

4. Gel chromatography method separates different substances depending on their

- A. Molecular size
- B. Molecular weight
- C. Density
- D. Viscosity

Ans. A

5. To explain the column efficiency, two theories i.e., plate and rate theory has been proposed. They are related to

- A. HPLC
- B. Gel chromatography
- C. Gas liquid chromatography
- D. Paper chromatography

Ans. C

6. The D and L isomeric forms can be distinguished by

- A. Polarimetry
- B. Refractometry
- C. Potentiometry
- D. Conductometry

Ans. A

7 Sodium vapor lamp used in Polarimeter emit light of wavelength (in Angstrom)

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- A. 5890 & 5896
- B. 4368 & 4916
- C. 5770 & 5791
- D. 5461 & 4368

Ans. A

8. Porphyrins can be separated using which stationary phase

- A. Magnesium carbonate
- B. Alumina
- C. Aluminium silicate
- D. Silica gel

Ans. A

9. The composition of sephadex used as stationary phase in gel chromatography is

- A. Starch
- B. Polyacrylamide
- C. Cross linked dextran
- D. Polyvinyl acetate

Ans. C

10. The principle of separation in ion-exchange chromatography is

- A. Adsorption
- B. Partition
- C. Reversible exchange of functional groups
- D. Chemical reaction

Ans. C

11. Immersion refractometer requires how much sample for determination of refractive index

- A. 2-5 ml
- B. 10-15 ml
- C. 40-50 ml
- D. More than 100 ml

Ans. B

12. Glacial acetic acid is an example of

- A. Protogenic solvent
- B. Protophillic solvent
- C. Amphiprotic solvent
- D. Aprotic solvent

Ans. C

13. A drug which prevents uric acid synthesis by inhibiting the enzyme xanthine oxidase is

- A. Aspirin
- B. Allopurinol
- C. Colchicine
- D. Probenecid

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

Ans. D

14. 2. Which of the following is required for crystallization and storage of the hormone insulin?

- A. Mn^{++}
- B. Mg^{++}
- C. Ca^{++}
- D. Zn^{++}

Ans. D

15. Oxidation of which substance in the body yields the most calories

- A. Glucose
- B. Glycogen
- C. Protein
- D. Lipids

Ans. A

16. Milk is deficient in which vitamins?

- A. Vitamin C
- B. Vitamin A
- C. Vitamin B
- D. Vitamin K

Ans. C

17. Milk is deficient of which mineral?

- A. Phosphorus
- B. Sodium
- C. Iron
- D. Potassium

Ans. A

18. The degradative Processes are categorized under the heading of

- A. Anabolism
- B. Catabolism
- C. Metabolism
- D. None of the above

Ans. B

19. The cellular organelles called “suicide bags” are

- A. Lysosomes
- B. Ribosomes
- C. Nucleolus
- D. Golgi's bodies

Ans. A

20. Mature erythrocytes do not contain

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- A. Glycolytic enzymes
- B. HMP shunt enzymes
- C. Pyridine nucleotide
- D. ATP

Ans. C

21. The aldose sugar is

- A. Glycerose
- B. Ribulose
- C. Erythrulose
- D. Dihydroxyacetone

Ans. A

22. Two sugars which differ from one another only in configuration around a single carbon atom are termed

- A. Epimers
- B. Anomers
- C. Optical isomers
- D. Stereoisomers

Ans. A

23. Compounds having the same structural formula but differing in spatial configuration are known as

- A. Stereoisomers
- B. Anomers
- C. Optical isomers
- D. Epimers

Ans. A

24. Erythromycin contains

- A. Dimethyl amino sugar
- B. Trimethyl amino sugar
- C. Sterol and sugar
- D. Glycerol and sugar

Ans. A

25. The constituent unit of inulin is

- A. Glucose
- B. Fructose
- C. Mannose
- D. Galactose

Ans. B

26. A positive Benedict's test is not given by

- A. Sucrose
- B. Lactose

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- C. Maltose
- D. Glucose

Ans. A

27. A positive Seliwanoff's test is obtained with

- A. Glucose
- B. Fructose
- C. Lactose
- D. Maltose

Ans. B

28. Osazones are not formed with the

- A. Glucose
- B. Fructose
- C. Sucrose
- D. Lactose

Ans. C

29. The specific gravity of urine normally ranges from

- A. 0.900–0.999
- B. 1.003–1.030
- C. 1.000–1.001
- D. 1.101–1.120

Ans. B

30. Specific gravity of urine increases in

- A. Diabetes mellitus
- B. Chronic glomerulonephritis
- C. Compulsive polydipsia
- D. Hypercalcemia

Ans. A

31. Number of stereoisomers of glucose is

- A. 4
- B. 8
- C. 16
- D. None of these

Ans. C

32. The highest concentrations of fructose are found in

- A. Aqueous humor
- B. Vitreous humor
- C. Synovial fluid
- D. Seminal fluid

Ans. D

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

33. During starvation, ketone bodies are used as a fuel by

- A. Erythrocytes
- B. Brain
- C. Liver
- D. All of these

Ans. B

34. Catalytic activity of salivary amylase requires the presence of

- A. Chloride ions
- B. Bromide ions
- C. Iodide ions
- D. All of these

Ans. A

35. Honey contains the hydrolytic product of

- A. Lactose
- B. Maltose
- C. Inulin
- D. Starch

Ans. C

36. Cane sugar (Sucrose) injected into blood is

- A. Changed to fructose
- B. Changed to glucose
- C. Undergoes no significant change
- D. Changed to glucose and fructose

Ans. C

37. Pentose production is increased in

- A. HMP shunt
- B. Uronic acid pathway
- C. EM pathway
- D. TCA cycle

Ans. A

38. Glucose tolerance is increased in

- A. Diabetes mellitus
- B. Adrenalectomy
- C. Acromegaly
- D. Thyrotoxicosis

Ans. B

39. Glucose tolerance is decreased in

- A. Diabetes mellitus
- B. Hypopituitarism
- C. Addison's disease

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

D. Hypothyroidism

Ans. A

40. Specific test for ketohexoses:

A. Seliwanoff's test

B. Osazone test

C. Molisch test

D. None of these

Ans. A

41. The tissues with the highest total glycogen content are

A. Muscle and kidneys

B. Kidneys and liver

C. Liver and muscle

D. Brain and Liver

Ans. C

42. Rothera test is not given by

A. β -hydroxy butyrate

B. bile salts

C. Glucose

D. None of these

Ans. A

43. Which one of the following can convert glucose to vitamin C?

A. Albino rats

B. Humans

C. Monkeys

D. Guinea pigs

Ans. A

44. Which one of the following cannot convert glucose to Vitamin C?

A. Albino rats

B. Dogs

C. Monkeys

D. Cows

Ans. C

45. Pasteur effect is

A. Inhibition of glycolysis

B. Oxygen is involved

C. Inhibition of enzyme phosphofructokinase

D. All of these

Ans. D

46. Phenylalanine is the precursor of

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- A. L-DOPA
- B. Histamine
- C. Tyrosine
- D. Throxine

Ans. C

48. Epimers of glucose is

- A. Fructose
- B. Galactose
- C. Ribose
- D. Deoxyribose

Ans. B

49. Human heart muscle contains

- A. D-Arabinose
- B. D-Ribose
- C. D-Xylose
- D. L-Xylose

Ans. C

50. Invert sugar is

- A. Lactose
- B. Mannose
- C. Fructose
- D. Hydrolytic product of sucrose

Ans. D

51. Which of the following is not reducing sugar?

- A. Lactose
- B. Maltose
- C. Sucrose
- D. Fructose

Ans. C

52. The optically inactive amino acid is

- A. Glycine
- B. Serine
- C. Threonine
- D. Valine

Ans. A

53. pH (isoelectric pH) of alanine is

- A. 6.02
- B. 6.6
- C. 6.8
- D. 7.2

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

Ans. A

54. An amino acid not found in proteins is

- A. β -Alanine
- B. Proline
- C. Lysine
- D. Histidine

Ans. A

55. A 'suicide enzyme' is

- A. Cyclooxygenase
- B. Lipooxygenase
- C. Phospholipase A1
- D. Cytochrom - C

Ans. A

56. The optimal pH for the enzyme rennin is

- A. 2.0
- B. 4.0
- C. 8.0
- D. 6.0

Ans. B

57. The optimal pH for the enzyme trypsin is

- A. 1.0–2.0
- B. 2.0–4.0
- C. 5.2–6.2
- D. 5.8–6.2

Ans. C

58. The optimal pH for the enzyme chymo-trypsin is

- A. 2.0
- B. 4.0
- C. 6.0
- D. 8.0

Ans. D

59. The main site of urea synthesis in mammals is

- A. Liver
- B. Skin
- C. Intestine
- D. Kidney

Ans. A

60. The number of ATP required for urea synthesis is

- A. 0

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

B. 1

C. 2

D. 3

Ans. D

61. Control of urea cycle involves the enzyme:

A. Carbamoyl phosphate synthetase

B. Ornithine transcarbamoylase

C. Argininosuccinase

D. Arginase

Ans. A

62. Chemical score of protein zein is

A. 0

B. 57

C. 60

D. 70

Ans. A

63. Biological value of egg white protein is

A. 94

B. 83

C. 85

D. 77

Ans. B

64. Net protein utilisation of egg protein is

A. 75%

B. 80%

C. 91%

D. 72%

Ans. C

65. Net protein utilization of milk protein is

A. 75%

B. 80%

C. 86%

D. 91%

Ans. A

66. Pulses are deficient in

A. Lysine

B. Threonine

C. Methionine

D. Tryptophan

Ans. C

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

67. A trace element deficient in the milk is

- A. Magnesium
- B. Copper
- C. Zinc
- D. Chloride

Ans. A

68. Milk is deficient in

- A. Vitamin B1
- B. Vitamin B2
- C. Sodium
- D. Potassium

Ans. C

69. Tay-Sachs disease results from inherited deficiency of

- A. Arylsulphatase A
- B. Hexosaminidase A
- C. Sphingomyelinase
- D. Ceramidase

Ans. B

70. The largest immunoglobulin is

- A. IgA
- B. IgG
- C. IgM
- D. IgD

Ans. C

71. Allergic reactions are mediated by

- A. IgA
- B. IgG
- C. IgD
- D. IgE

Ans. D

72. An immunoglobulin which can cross the placental barrier is

- A. IgA
- B. IgM
- C. IgD
- D. None of these

Ans. D

73. MHC Class II proteins, in conjunction with antigens, are recognised by

- A. Cytotoxic T cells
- B. Helper T cells

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- C. Suppressor T cells
- D. Memory T cells

Ans. B

74. CD 8 is a transmembrane glycoprotein present in

- A. Cytotoxic T cells
- B. Helper T cells
- C. Suppressor T cells
- D. Memory T cells

Ans. C

75. CD 4 is a transmembrane glycoprotein present in

- A. Cytotoxic T cells
- B. Helper T cells
- C. Suppressor T cells
- D. Memory T cells

Ans. A

76. Human immunodeficiency virus destroys

- A. Cytotoxic T cells
- B. Helper T cells
- C. B cells
- D. Plasma cells

Ans. B

77. Active immunity can be produced by administration of

- A. Killed bacteria or viruses
- B. Live attenuated bacteria or viruses
- C. Toxoids
- D. All of these

Ans. D

78. Passive immunity can be produced by administration of

- A. Pure antigens
- B. Immunoglobulins
- C. Toxoids
- D. Killed bacteria or viruses

Ans. B

79. Egg is poor in

- A. Essential amino acids
- B. Carbohydrates
- C. Avidin
- D. Biotin

Ans. B

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

80. Cholesterol is present in all the following except

- A. Milk
- B. Fish
- C. Egg white
- D. Egg yolk

Ans. C

81. Meat is rich in all of the following except

- A. Iron
- B. Fluorine
- C. Copper
- D. Zinc

Ans. B

82. Kwashiorkor occurs when the diet is severely deficient in

- A. Iron
- B. Calories
- C. Proteins
- D. Essential fatty acids

Ans. A

83. During starvation, the first reserve nutrient to be depleted is

- A. Glycogen
- B. Proteins
- C. Triglycerides
- D. Cholesterol

Ans. A

84. Histamine is synthesised in

- A. Brain
- B. Mast cells
- C. Basophils
- D. All of these

Ans. D

85. GABA(gama amino butyric acid) is

- A. Post-synaptic excitatory transmitter
- B. Post-synaptic inhibitor transmitter
- C. activator of glia-cell function
- D. inhibitor of glia-cell function

Ans. B

86. The pH of an amino acid depends

- A. Optical rotation
- B. Dissociation constant
- C. Diffusion coefficient

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

D. Chain length

Ans. B

87. Plasma proteins are isolated by

- A. Salting out
- B. Electrophoresis
- C. Flourimetry
- D. Both A. and B.

Ans. D

88. NH₃ is detoxified in brain chiefly as

- A. Urea
- B. Uric acid
- C. Creatinine
- D. Glutamine

Ans. D

89. In humans, NH₃ is detoxified in liver as

- A. Creatinine
- B. Uric acid
- C. Urea
- D. Uronic acid

Ans. C

90. Amino acids are insoluble in

- A. Acetic acid
- B. Chloroform
- C. Ethanol
- D. Benzene

Ans. D

91. The precursor of bile salts, sex hormones and vitamin D is

- A. Diosgenin
- B. Cholesterol
- C. Campesterol
- D. Ergosterol

Ans. B

92. Biuret test is specific for

- A. Two peptide linkage
- B. Phenolic group
- C. Imidazole ring
- D. None of these

Ans. A

93. Dietary fats after absorption appear in the circulation as

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- A. HDL
- B. VLDL
- C. LDL
- D. Chylomicron

Ans. D

94. Fucosidosis is characterized by

- A. Muscle spasticity
- B. Liver enlargement
- C. Skin rash
- D. Kidney failure

Ans. A

95. The deficiency of both energy and protein causes

- A. Marasmus
- B. Kwashiorkor
- C. Diabetes
- D. Beri-beri

Ans. A

96. Creatinine EDTA clearance is a test to measure

- A. Renal plasma flow
- B. Filtration fraction
- C. Glomerular filtration rate
- D. Tubular function

Ans. C

97. Glomerular filtration rate can be measured by

- A. Endogenous creatinine clearance
- B. Para-aminohippurate test
- C. Addis test
- D. Mosenthal test

Ans. A

98. De novo synthesis of fatty acids requires all of the following except

- A. Biotin
- B. NADH
- C. Panthothenic acid
- D. ATP

Ans. D

99. Cholesterol is present in all of the following except

- A. Egg
- B. Fish
- C. Milk
- D. Pulses

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Ans. D

100. Body water is regulated by the hormone:

- A. Oxytocin
- B. ACTH
- C. FSH
- D. Epinephrine

Ans. A

101. Normal range of serum albumin is

- A. 2.0–3.6 gm/dl
- B. 2.0–3.6 mg/dl
- C. 3.5–5.5 gm/dl
- D. 3.5–5.5 mg/dl

Ans. C

102. Normal range of serum globulin is

- A. 2.0–3.6 mg/dl
- B. 2.0–3.6 gm/dl
- C. 3.5–5.5 mg/dl
- D. 3.5–5.5 gm/dl

Ans. B

103. Galactose intolerance can occur in

- A. Haemolytic jaundice
- B. Hepatocellular jaundice
- C. Obstructive jaundice
- D. None of these

Ans. B

104. Inulin clearance is a measure of

- A. Glomerular filtration rate
- B. Tubular secretion flow
- C. Tubular reabsorption rate
- D. Renal plasma flow

Ans. B

105. Phenolsulphonephthalein excretion test is an indicator of

- A. Glomerular filtration
- B. Tubular secretion
- C. Tubular reabsorption
- D. Renal blood flow

Ans. D

106. Para-amino hippurate excretion test is an indicator of

- A. Glomerular filtration

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- B. Tubular secretion
- C. Tubular reabsorption
- D. Renal plasma flow

Ans. D

107. Renal plasma flow of an average adult man is

- A. 120–130 ml/minute
- B. 325–350 ml/minute
- C. 480–52 ml/minute
- D. 560–830 ml/minute

Ans. D

108. All the following are functions of prostaglandins except

- A. Lowering of B.P
- B. Introduction of labour
- C. Anti inflammatory
- D. Prevention of myocardial infraction

Ans. D

109. Inherited deficiency of enzyme cerebro-sidase produces

- A. Fabry's disease
- B. Niemann pick disease
- C. Gaucher's disease
- D. Tay-sach's disease

Ans. C

110. This lipoprotein removes cholesterol from the body

- A. HDL
- B. VLDL
- C. IDL
- D. Chylomicrons

Ans. A

111. Liposomes are

- A. Lipid bilayered
- B. Water in the middle
- C. Carriers of drugs
- D. All of these

Ans. D

112. Bile is produced by

- A. Liver
- B. Gall-bladder
- C. Pancreas
- D. Intestine

Ans. A

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

113. Fats are solids at

- A. 10°C
- B. 20°C
- C. 30°C
- D. 40°C

Ans. B

114. Amylase present in saliva is

- A. α Amylase
- B. β -Amylase
- C. γ -Amylase
- D. All of these

Ans. A

115. Selwanof's test is positive in

- A. Glucose
- B. Fructose
- C. Galactose
- D. Mannose

Ans. B

116. Fat soluble vitamins are

- A. Soluble in alcohol
- B. one or more Propene units
- C. Stored in liver
- D. All these

Ans. D

117. Deficiency of Vitamin A causes

- A. Xerophthalmia
- B. Hypoprothrombinemia
- C. Megaloblastic anemia
- D. Pernicious anemia

Ans. A

118. An important function of vitamin A is

- A. To act as coenzyme for a few enzymes
- B. To play an integral role in protein synthesis
- C. To prevent hemorrhages
- D. To maintain the integrity of epithelial tissue

Ans. D

119. Retinal is a component of

- A. Iodopsin
- B. Rhodopsin

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

- C. Cardiolipin
- D. Glycoproteins

Ans. B

120. Vitamin D absorption is increased in

- A. Acid pH of intestine
- B. Alkaline pH of intestine
- C. Impaired fat absorption
- D. Contents of diet

Ans. A

121. A poor source of Vitamin D is

- A. Egg
- B. Butter
- C. Milk
- D. Liver

Ans. C

122. Richest source of Vitamin D is

- A. Fish liver oils
- B. Margarine
- C. Egg yolk
- D. Butter

Ans. A

123. Deficiency of vitamin D causes

- A. Ricket and osteomalacia
- B. Tuberculosis of bone
- C. Hypthyroidism
- D. Skin cancer

Ans. C

124. One international unit (I.U) of vitamin D is defined as the biological activity of

- A. 0.025 μg of cholecalciferol
- B. 0.025 μg of 7-dehydrocholecalciferol
- C. 0.025 μg of ergosterol
- D. 0.025 μg of ergocalciferol

Ans. A

125. The Vitamin B1 deficiency causes

- A. Ricket
- B. Nyctalopia
- C. Beriberi
- D. Pellagra

Ans. C

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

126. Scurvy is caused due to the deficiency of

- A. Vitamin A
- B. Vitamin D
- C. Vitamin K
- D. Vitamin C

Ans. D

127. Riboflavin deficiency causes

- A. Cheilosis
- B. Loss of weight
- C. Mental deterioration
- D. Dermatitis

Ans. A

128. Pellagra occurs in population dependent on

- A. Wheat
- B. Rice
- C. Maize
- D. Milk

Ans. C

129. Magenta tongue is found in the deficiency of the vitamin

- A. Riboflavin
- B. Thiamin
- C. Nicotinic acid
- D. Pyridoxine

Ans. A

130. Corneal vascularisation is found in deficiency of the vitamin:

- A. B1
- B. B2
- C. B3
- D. B6

Ans. B

131. The pellagra preventive factor is

- A. Riboflavin
- B. Pantothenic acid
- C. Niacin
- D. Pyridoxine

Ans. C

132. Pellagra is caused due to the deficiency of

- A. Ascorbic acid
- B. Pantothenic acid
- C. Pyridoxine
- D. Niacin

Ans. D

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

133. Vitamin B6 deficiency may occur during therapy with

- A. Isoniazid
- B. Terramycin
- C. Sulpha drugs
- D. Aspirin

Ans. A

134. A deficiency of vitamin B12 causes

- A. Beri-Beri
- B. Scurvy
- C. Perniciuos anemia
- D. Ricket

Ans. D

135. Factors affecting enzyme activity:

- A. Concentration
- B. pH
- C. Temperature
- D. All of these

Ans. D

136. The pH optima for salivary analyse is

- A. 6.6–6.8
- B. 2.0–7.5
- C. 7.9
- D. 8.6

Ans. A

137. The pH optima for pancreatic analyse is

- A. 4.0
- B. 7.1
- C. 7.9
- D. 8.6

Ans. D

138. The ion which activates salivary amylase activity is

- A. Chloride
- B. Bicarbonate
- C. Sodium
- D. Potassium

Ans. A

139. Glucose absorption is promoted by

- A. Vitamin A
- B. Thiamin
- C. Vitamin C

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D. Vitamin K

Ans. B

140. A carbohydrate which cannot be digested in human gut is

- A. Cellulose
- B. Starch
- C. Glycogen
- D. Maltose

Ans. A

141. The number of ATP molecules generated for each turn of the citric acid cycle is

- A. 8
- B. 12
- C. 24
- D. 38

Ans. B

142. Mitochondrial membrane is freely permeable to

- A. Pyruvate
- B. Malate
- C. Oxaloacetate
- D. Fumarate

Ans. B

143. The net number of ATP formed per mole of glucose in anaerobic glycolysis is

- A. 1
- B. 2
- C. 6
- D. 8

Ans. B

144. The sites for gluconeogenesis are

- A. Liver and kidney
- B. Skin and pancreas
- C. Lung and brain
- D. Intestine and lens of eye

Ans. A

145. Insulin has no effect on the activity of the enzyme:

- A. Glycogen synthetase
- B. Fructokinase
- C. Pyruvate kinase
- D. Pyruvate dehydrogenase

Ans. B

146. In Hunter's syndrome

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

- A. There is progressive corneal opacity
- B. Keratan sulphate is excreted in the urine
- C. Enzyme defective is arylsulphatase B
- D. Hearing loss is perceptive

Ans. D

147. An important feature of Von-Gierke's disease is

- A. Muscle cramps
- B. Cardiac failure
- C. Hypoglycemia
- D. Respiratory alkalosis

Ans. C

148. The affected organ in Mc Ardle's syndrome is

- A. Liver
- B. Kidney
- C. Liver and Heart
- D. Skeletal muscle

Ans. D

149. Refsum's disease is due to deficiency of the enzyme:

- A. Pyrantate α -oxidase
- B. Glucocerebrosidase
- C. Galactocerebrosidase
- D. Ceramide trihexosidase

Ans. A

150. A component of the respiratory chain in mitochondria is

- A. Coenzyme Q
- B. Coenzyme A
- C. Acetyl coenzyme
- D. Coenzyme containing thiamin

Ans. A

151. A pentamer immunoglobulin is

- A. Ig G
- B. Ig A
- C. Ig M
- D. Ig E

Ans. C

152. The immunoglobulin which can cross the placenta is

- A. Ig A
- B. Ig M
- C. Ig G
- D. Ig D

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

Ans. C

153. The total iron content of the human body is

- A. 400–500 mg
- B. 1–2 g
- C. 2–3 g
- D. 4–5 g

Ans. D

154. Iron is mainly absorbed from

- A. Stomach and duodenum
- B. Ileum
- C. Caecum
- D. Colon

Ans. A

155. 25. Aldosterone synthesis occurs in

- A. Zona reticularis
- B. Zona fasciculate
- C. Zona glomerulosa
- D. Chromaffian cells

Ans. C

156. A hormone which cannot cross the blood brain barrier is

- A. Epinephrine
- B. Aldosterone
- C. ACTH
- D. TSH

Ans. A

157. Protein kinase C is activated by

- A. Cyclic AMP
- B. Cyclic GMP
- C. Diacyl glycerol
- D. Inositol triphosphate

Ans. C

158. Mental retardation can occur in

- A. Cretinism
- B. Juvenile myxoedema
- C. Myxoedema
- D. Juvenile thyrotoxicosis

Ans. A

159. The most powerful thyroid hormone is

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

- A. Reverse T3
- B. DIT
- C. T3
- D. T4

Ans. C

160. Zona glomerulosa of adrenal cortex synthesises

- A. Glucocorticoids
- B. Mineralocorticoids
- C. Androgens
- D. Estrogen and progesterone

Ans. A

161. A nucleoside consists of

- A. Nitrogenous base
- B. Purine or pyrimidine base + sugar
- C. Purine or pyrimidine base + phosphorous
- D. Purine + pyrimidine base + sugar + phosphorous

Ans. B

162. A nucleotide consists of

- A. A nitrogenous base like choline
- B. Purine + pyrimidine base + sugar + phosphorous
- C. Purine or pyrimidine base + sugar
- D. Purine or pyrimidine base + phosphorous

Ans. B

163. Gout is a metabolic disorder of catabolism of

- A. Pyrimidine
- B. Purine
- C. Alanine
- D. Phenylalanine

Ans. B

164. Reverse transcriptase is capable of synthesising

- A. RNA to DNA
- B. DNA to RNA
- C. RNA to RNA
- D. DNA to DNA

Ans. A

165. P 53 gene:

- A. A proto-oncogene
- B. An oncogene
- C. A tumour suppressor gene
- D. None of these

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

Ans. C

166. AN Eukaryotic ribosome is made up of _____ sub unit.

- A. 40S and 60S
- B. 40S and 50S
- C. 40S and 80S
- D. 60S and 80S

Ans. A

167. Restriction enzymes have been found in

- A. Humans
- B. Birds
- C. Bacteria
- D. Bacteriophage

Ans. C

168. Hypernatremia may occur in

- A. Diabetes insipidus
- B. Diuretic medication
- C. Heavy sweating
- D. Kidney disease

Ans. A

169. $\text{CH}_3\text{O}^- \text{Na}^+ + \text{CH}_3\text{Cl} \rightarrow \text{CH}_3\text{OCH}_3 + \text{NaCl}$

The above reaction is an example for which of the following?

- A. Williamson reaction
- B. Clemmenson reaction
- C. Wuotz's reaction
- D. Reformatsky reaction

Ans. A

170. Which of the following group is detected by using Herzig Meyer method?

- A. Alkyl group
- B. Hydroxy group
- C. Alkoxy group
- D. N-alkyl group

Ans. D

171. Increase the extent of conjugation of a double bonded system result in

- A. Hypochromic shift
- B. Hyperchromic shift
- C. Hypsochromic shift
- D. Bathochromic shift

Ans. D

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

172. A monochromator is not used in which of the following instrument?

- A. Spectrofluorimeter
- B. UV spectrometer
- C. FT-IR spectrometer
- D. IR spectrometer

Ans. C

173. _____ material is used for the preparation of master grafting

- A. Glass
- B. Iron
- C. Teflon
- D. Aluminum

Ans. D

174. The UV visible region in the electromagnetic spectrum of radiation is

- A. 200-400nm
- B. 400-800nm
- C. 200-800nm
- D. 300-660nm

Ans. C

175. Wave number is the number of waves

- A. per second
- B. per centimeter
- C. per inch
- D. per centimeter inverse

Ans. D

176. Nujol is

- A. Hexachlorobutadiene
- B. Mineral oil
- C. Perfluorokerosene
- D. Fluorolube

Ans. B

177. IR is useful for understanding of

- A. Drug drug interaction
- B. Functional group
- C. Physico-chemical properties
- D. Conformational Properties

Ans. B

178. In NMR spectrometry the chemical shift (δ) is expressed in

- A. Parts per million
- B. Gauss
- C. Tesla

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

D. Hertz

Ans. A

179. Tesla is unit used to express

A. Frequency

B. Pressure

C. Voltage

D. Magnetic Field Strength

Ans. D

180. The number of peak shown by diethyl ether in NMR spectrum are

A. 4

B. 5

C. 6

D. 2

Ans. D

181. The chemical shift value is

A. Proportional to field strength

B. Not proportional to field strength

C. Ratio of number of protons in each group

D. Proportional to the total number of protons

Ans. A

182. _____ is the wave length source in NMR spectrometer

A. Goniometer

B. Radio frequency oscillator

C. High voltage generator

D. Klystron oscillator

Ans. B

183. A mass spectrum is obtained by plotting graph of

A. Molecular weight versus peak height

B. Concentration versus peak height

C. Concentration versus degree of deflection of ions

D. Abundance of ions versus their m/e ratio

Ans. D

184. Removal of single electron from a molecule produce

A. Fragment ion

B. Molecular ion

C. Metastable ion

D. Rearrangement ion

Ans. B

185. Silica gel used in the most of the adsorbent columns contains –OH groups. So it is

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- A. Acidic
- B. Basic
- C. Neutral
- D. None of the above

Ans. A

186. One of the units used for expressing pressure is torr and it is equal to

- A. cm of Hg
- B. mm of Hg
- C. psi
- D. gauss

Ans. B

187. Derivatisation techniques in HPLC are intended to enhance

- A. Molecular weight
- B. Detectability
- C. Reversibility
- D. Reproducibility

Ans. B

188. Derivatisation is done in GC

- A. To convert a less polar compound to more polar compound
- B. To make the compound non volatile
- C. To convert a polar compound to less polar compound
- D. To liquefy a solid

Ans. C

189. The stationary phase used in gel permeation chromatography is

- A. Styrene divinyl benzyl co-polymer
- B. Charcoal
- C. Alumina
- D. Squalene

Ans. A

190. Official methods to analyze ciprofloxacin is

- A. Potentiometry
- B. HPLC
- C. Gas chromatography
- D. Non aqueous titration

Ans. B

191. In quantitative TLC radioactive material can be studied by

- A. Visual comparison
- B. Geiger Counter
- C. Densitometer
- D. Gravimetry

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

Ans. B

192. In gel permeation chromatography molecules are separated on the basis of

- A. Size and shape
- B. Chemical nature
- C. Adsorptive properties
- D. Partition coefficient

Ans. A

193. Thermolabile immiscible liquid can be separated by

- A. Decantation
- B. Dilution
- C. Counter-counter distribution
- D. Capillary centrifugation

Ans. B

194. A widely acceptor detector for pH measurement is

- A. Platinum wire
- B. Glass electrode
- C. Ag-AgCl detector
- D. Lanthanum fluoride

Ans. B

195. A glass electrode used in pH measurement is

- A. A membrane electrode
- B. Ion selective electrode
- C. Metal – metal oxide electrode
- D. All of the above

Ans. A

196. Conductivity cells are made up of

- A. Two silver rods
- B. Two parallel sheets of platinum
- C. Glass membrane with Ag/AgCl
- D. Stainless steel

Ans. B

197. The conductivity of the solution of an electrolyte is

- A. Not temperature dependence
- B. Temperature dependence
- C. Pressure dependence
- D. Volume dependence

Ans. B

198. Ion mobility is denoted by

- A. cm/sec

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

- B. mg/sec
- C. °C/sec
- D. ml/sec

Ans. A

199. Quantitative analysis by polarography is based on

- A. Electrode potential
- B. Half wave potential
- C. Migration current
- D. Limiting current

Ans. B

200. The factor affecting diffusion current in polarography can be denoted by

- A. Ilkovic equation
- B. Nernst equation
- C. Mark Houwink equation
- D. Lambert's Law

Ans. A

201. Which one of the following is measured in amperometric titration?

- A. Resistance
- B. Conductance
- C. Voltage
- D. Current

Ans. D

202. In amperometric titration _____ is kept constant

- A. Resistance
- B. Voltage applied
- C. Current
- D. Conductance

Ans. B

203. A target material used in the production of X-rays is

- A. Potassium
- B. Copper
- C. Aluminium
- D. Sodium

Ans. B

204. Which one of the following indicator is used in complexometric titration?

- A. Crystal violet
- B. Murexide
- C. Eosin
- D. Methyl orange

Ans. B

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

205. Aprotic solvents have

- A. Acidic properties
- B. Basic properties
- C. Both acidic and basic properties
- D. No acidic and No basic properties

Ans. D

206. The electron transition not observed in UV spectroscopy is

- A. $\sigma \rightarrow \sigma^*$
- B. $n \rightarrow \sigma^*$
- C. $n \rightarrow \pi^*$
- D. $\pi \rightarrow \pi^*$

Ans. A

207. Frequency is

- A. $1/\lambda$
- B. c/λ
- C. $c\lambda$
- D. c/λ

Ans. B

208. What is the unit of specific conductance?

- A. Ohm
- B. Mho
- C. Ohm cm^{-1}
- D. Mho cm^{-1}

Ans. D

209. How many ^1H NMR signals will be given by acetone?

- A. One
- B. Two
- C. Three
- D. Six

Ans. A

210. In which order are the various parts of a mass spectrometer found?

- A. Ionization chamber – sample – magnet – collector - recorder
- B. Sample – ionization chamber – magnet – collector - recorder
- C. Sample – magnet – ionization chamber – collector - recorder
- D. Ionization chamber– magnet – sample – collector - recorder

Ans. B

211. Which of the following gas is unsuitable for GC as carrier gas

- A. Carbon dioxide
- B. Helium
- C. Nitrogen

MULTIPLE CHOICE QUESTIONS (ANALYSIS AND CHEMISTRY)

D. Oxygen

Ans. A

212. To determine the rancidity of arachis oil _____ method is used

- A. Acid base titration
- B. Complexometric titration
- C. Redox titration
- D. Precipitation titration

Ans. C

213. _____ is the choice for GC separations of halogenated compounds

- A. Electron capture detector
- B. Flame ionization detector
- C. Thermal conductivity detector
- D. Universal detector

Ans. A

214. Attachment of tertiary amino group to the 4th carbon of the butyrophenone makes it

- A. Antidepressant
- B. Antipsychotic
- C. Anticonvulsant
- D. CNS stimulant

Ans. B

215. Which of the following is prompt acting insulin?

- A. Insulin injection
- B. Insulin zinc suspension
- C. Globin zinc insulin injection
- D. Isophane insulin injection

Ans. A

216. Scopolamine is

- A. 3- α hydroxy tropane
- B. 6,7 β - hydroxy tropane
- C. 3 - β hydroxy tropane
- D. 6 - β hydroxy tropane

Ans. B

217. Doxorubicin act by

- A. Inhibiting asparaginase
- B. Inhibiting topoisomerase - II
- C. Inhibiting adenosine deaminase
- D. Inhibiting function of microtubule

Ans. B

218. Methotrexate produce their action by

MULTIPLE CHOICE QUESTIONS (ANALYSIC AND CHEMISTRY)

- A. Interfering with purine synthesis
- B. Intracellular formation of an amine adduct
- C. Forming a conjugate with nucleic acid
- D. Inhibit the synthesis of folic acid

Ans. A

219. A metabolites of spironolactone is

- A. Aldosterone
- B. Cabrenone
- C. Corticosterone
- D. Pregnenolone

Ans. B

220. Peripheral neurotransmitter is

- A. Histamine
- B. Noradrenalin
- C. Hydroxytryptamine
- D. Prostaglandin

Ans. B